

### **REMARKS**

Applicant respectfully requests reconsideration of the present application in view of the foregoing amendments and in view of the reasons that follow.

New claim 33 has been added.

This amendment adds, changes and/or deletes claims in this application. A detailed listing of all claims that are, or were, in the application, irrespective of whether the claim(s) remain under examination in the application, is presented, with an appropriate defined status identifier.

Applicant respectfully submits that the amendments to the claims are supported by the disclosure of Applicant's application. For example, at least page 3, line 38, to page 4, line 18, and page 5, lines 6-17.

After amending the claims as set forth above, claims 1 and 10-33 are now pending in this application. Claims 22-24, 26, and 27 have been withdrawn from consideration.

#### **Information Disclosure Statements**

Applicant acknowledges receipt of a signed and initialed copy of the PTO/SB/08 form submitted with the Information Disclosure Statement of September 25, 2009.

Applicant notes that an Information Disclosure Statement and PTO/SB/08 form were submitted on February 15, 2010. Applicant respectfully requests that a signed and initialed copy of the PTO/SB/08 form be included with the next Office correspondence.

#### **Rejections under 35 U.S.C. § 112**

Claim 13 is rejected under 35 U.S.C. § 112, first paragraph, as allegedly failing to comply with the written description requirement. Claims 1, 11, 13, 17, 19, 21, 25, and 31 are rejected under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite. Applicant respectfully submits that the amendments to the claims render these rejections moot. Reconsideration and withdrawal of these rejections is respectfully requested.

**Rejections under 35 U.S.C. § 103**

Claims 1, 10-18, and 28-30 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over U.S. Pub. No. 2004/0229071 to Jankosky *et al.* (hereafter “Jankosky”). This rejection is respectfully traversed.

Jankosky discusses surface blistering and hydrogen degassing in aluminum alloys and how heat treatments can cause such surface blistering in aluminum alloys. See Jankosky at paragraphs 0002, 0005, and 0019. Jankosky discloses a process of providing aluminum alloy articles with a coating to protect the aluminum alloy articles from blistering during subsequent heat treatment. See Jankosky at paragraph 0006.

In the process of Jankosky, aluminum alloy articles are first deoxidized and cleaned by a caustic treatment, an acid treatment, and water rinse to remove organics and oxides. See Jankosky at paragraphs 0006 and 0023. In paragraph 0024, Jankosky teaches that this step of cleaning and preparing the surface of the aluminum alloy articles “is an essential and critical process” because it permits a subsequent coating with active fluoride agents that inhibit hydrogen pickup and promote hydrogen degassing to be effective and decreases the probability of void formation, blistering, and increased hydrogen outgassing upon heat treatment above 427°C (801°F).

The cleaned aluminum alloy articles are then coated with a liquid polymeric that includes organic resin and a fluoride containing compound that cures on the surface of the aluminum alloy articles. See Jankosky at paragraphs 0006 and 0025-0031. Jankosky discloses that once the aluminum alloy articles have been coated with the polymeric coating and the coating has cured the coated articles can be safely stored indefinitely before the final furnace heat treatment, which is a subsequent heat treatment of 400 to 650°C. See Jankosky at paragraphs 0006, 0031, and 0032. Jankosky discloses that the polymeric coating is oxidized, vaporized, and/or pyrolyzed during the heat treatment. See Jankosky at paragraph 0032.

The Office asserts on page 5 of the Office Action that Jankosky discloses providing the workpiece which is to be modified and treating the workpiece with at least one modifying

agent to obtain a surface-modified workpiece. However, Jankosky does not disclose or suggest a process for producing surface-modified work pieces made from at least one of a metal and one or more alloys, comprising the steps of providing the workpiece which is to be modified, wherein the workpiece to be modified is provided at a temperature of from 300 to 550°C, and after providing the workpiece at the temperature of from 300 to 550°C, treating the workpiece with at least one modifying agent to obtain the surface-modified workpiece, wherein the at least one modifying agent is at a temperature of at least 0°C to at most 100°C, as recited in amended claim 1. Claims 10-18 and 28-30 depend from claim 1.

Instead, the process of Jankosky first modifies the surface of an aluminum alloy article by cleaning and preparing the surface of the aluminum alloy article to remove organics and oxides. The process of Jankosky then coats the polymeric coating onto the cleaned surface of the aluminum alloy article before the article is subsequently heat treated. Therefore, the process of Jankosky treats the surface of the aluminum alloy article before the article is heat treated instead of modifying the aluminum alloy article with a surface modifying agent at a temperature of at least 0°C to at most 100°C after providing the workpiece at the temperature of from 300 to 550°C, as recited in amended claim 1. For at least these reasons, the process of Jankosky does not disclose or suggest the features of amended claim 1.

Applicant notes that Applicant's invention advantageously provides surface-modified workpieces with a reduced amount of coarse grains at lower cost than conventional processes, while maintaining the corrosion resistance and bonding ability of the workpieces. See Applicant's specification at page 2, lines 27-37.

In addition, it would not have been obvious to modify the process of Jankosky to modify a surface of an aluminum alloy article with a modifying agent after providing a workpiece at the temperature of from 300 to 550°C, as recited in amended claim 1, instead of preparing the surface of the aluminum alloy article before heat treatment, as disclosed by Jankosky, because Jankosky teaches against such a modification. Applicant notes that the prior art must be considered in its entirety, i.e., as a whole, including disclosures that teach away from the claims, and that references cannot be combined where references teach away from their combination. See MPEP §§ 2141.02, Part VI; 2145, Part X(D)(2).

Jankosky teaches that the process of Jankosky is used to promote hydrogen degassing and inhibit the formation of surface blisters by providing a protective coating prior to heat treatment because hydrogen pickup and surface blisters occur during heat treatment. Further, one of ordinary skill in the art would understand that forming an aluminum hydroxide layer on an aluminum alloy article at a temperature above 400°C would promote hydrogen gases within the aluminum alloy article, which Jankosky teaches against. In light of this, one of ordinary skill in the art would not have altered the process of Jankosky to first provide a workpiece to be modified at a temperature of from 300 to 550°C, and after providing the workpiece at the temperature of from 300 to 550°C, treating the workpiece with at least one modifying agent at a temperature of at least 0°C to at most 100°C to obtain a surface-modified workpiece, as recited in amended claim 1.

For at least the reasons discussed above, Jankosky does not disclose or suggest the features of claims 1, 10-18, and 28-30 and it would not have been obvious to modify the process of Jankosky to provide the process of these claims. Reconsideration and withdrawal of this rejection is respectfully requested.

Claims 19-21, 25, 31, and 32 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Jankosky in view of EP 1 154 042 to Kojima *et al.* (hereafter “Kojima”). This rejection is respectfully traversed. Kojima fails to remedy the deficiencies of Jankosky discussed above in regard to independent claim 1, from which claims 19-21, 25, 31, and 32 depend. Reconsideration and withdrawal of this rejection is respectfully requested.

### **Double Patenting**

Claims 1, 10-19, and 21 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 2, 4-6, 17, and 19-32 of U.S. Application No. 11/576,918. Because this is a provisional rejection regarding another application currently being prosecuted, Applicant respectfully requests that this rejection be held in abeyance.

**New Claim**

New claim 33 has been added. Claim 33 depends from claim 1 and is allowable over the prior art for at least the reasons discussed above and for its respective additional recitations.

**Conclusion**

Applicant submits that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by the credit card payment instructions in EFS-Web being incorrect or absent, resulting in a rejected or incorrect credit card transaction, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicant hereby petitions for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 19-0741.

Respectfully submitted,

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By [Signature]

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